DECISION DOCUMENT
SWMU 12/15 - SANITARY LANDFILL/PESTICIDE DISPOSAL AREA
KNOWN RELEASES SWMUs
TOOELE ARMY DEPOT
TOOELE, UTAH

Contract No. DACA31-94-D-0060
Delivery Order No. 1

Prepared for:

TOOELE ARMY DEPOT
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DECISION DOCUMENT FOR THE
SOIL COVER ACTION
AT SWMU 12/15 (DSERTS# TEAD-09)
SANITARY LANDFILL/PESTICIDE DISPOSAL AREA

TOOELE ARMY DEPOT
TOOELE, UTAH

1. Purpose of Corrective Action

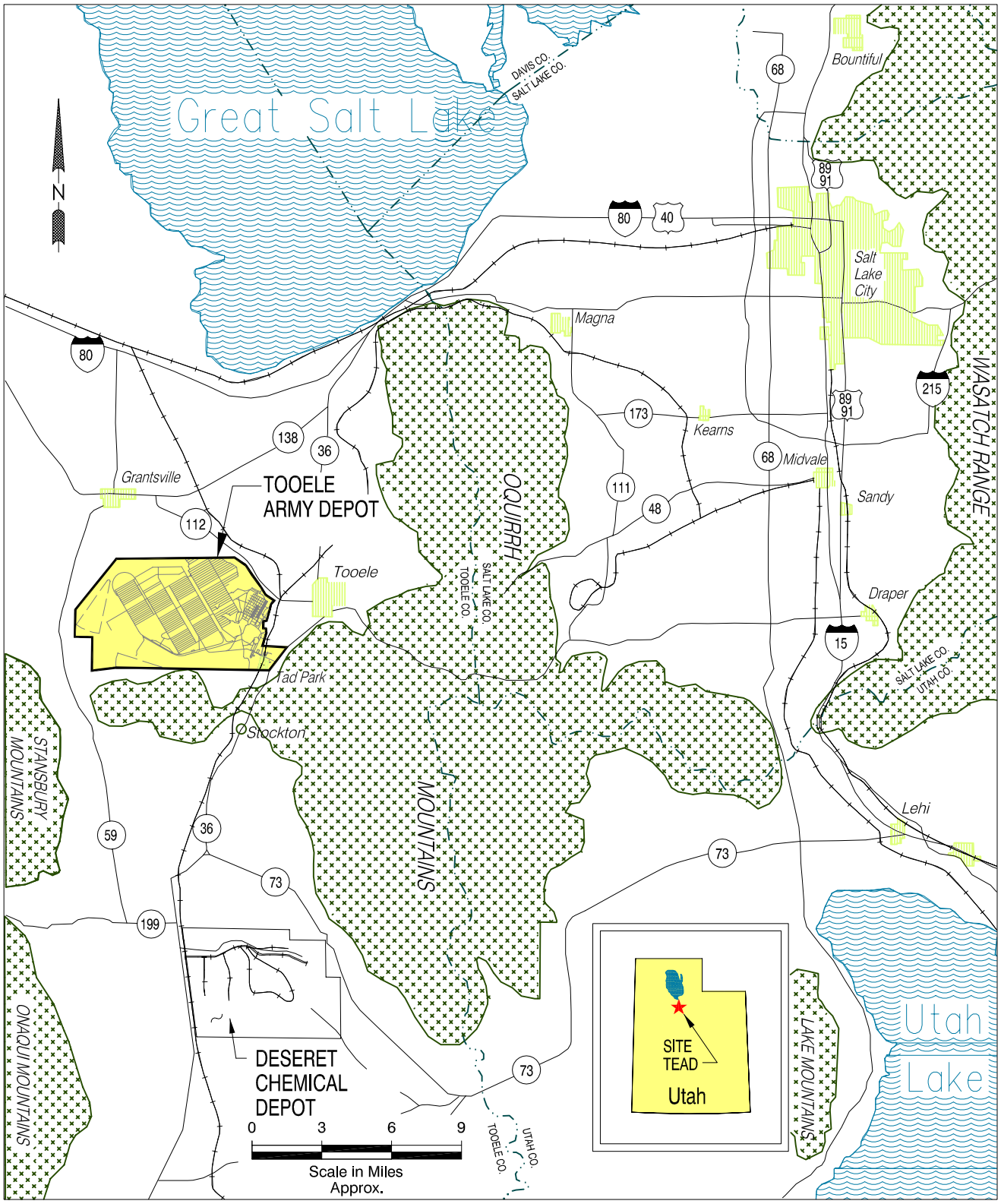
This Decision Document describes the selected action to improve the existing soil and vegetative cover and restrict land uses at the Sanitary Landfill/Pesticide Disposal Area, Solid Waste Management Unit (SWMU) 12/15, Tooele Army Depot (TEAD), Utah. The DSERTS number for the site is TEAD-09. Figure 1 shows the location of TEAD. This action is developed in accordance with the Resource Conservation and Recovery Act (RCRA), Army Regulation 200-1/Army Pamphlet (DA PAM) 200-1, and TEAD's RCRA Post Closure Monitoring and Corrective Action Permit regulated by the State of Utah.

The site covers approximately 70 acres and was used for the disposal of hazardous and nonhazardous waste since 1942. The waste was buried in trenches and placed in natural depressions, and covered with soil from the surrounding area. The southern portion of SWMU 12/15 has reportedly been closed since the 1980s. The north-central portion has been closed to domestic waste since spring 1994; however, it continued to accept construction debris, asphalt, and asbestos until spring 1996. Figure 2 shows the location of SWMU 12/15 within TEAD.

The landfill reportedly handled conventional sanitary waste (e.g., scrap metal, rubber tires, paper, garbage, and scrap wood), untreated paint sludge, grease and oil, and paper-type filters for separating polychlorinated biphenyls (PCBs) from oil to be reused in electrical transformers. Waste products from metal-plating operations, paint containers, empty paint thinner and stripper containers, battery-acid containers, pesticide and herbicide containers, asbestos-containing materials, and ethylene glycol were also disposed of at the landfill during the 1940s, 1950s, and 1960s. The landfill was never permitted. Hazardous waste was not deposited in the landfill after October 1980, when TEAD's Hazardous Waste Management Plan was implemented.

The landfill currently has a partial vegetative soil cover. Exposed surface debris is present in some areas mostly consisting of wood, metal fragments, and concrete. The major topographic feature of the landfill is an arroyo which bisects the landfill in a north-south orientation. The arroyo no longer carries stormwater flow from the administrative area of the depot, as TEAD has diverted that runoff to an engineered stormwater management system.

The Pesticide Disposal Area (SWMU 12) is located within the Sanitary Landfill (SWMU 15). SWMU 12 reportedly consisted of a trench where barrels containing small amounts



SOURCE: RUST E&I, 1995

FIGURE 1
LOCATION MAP OF
TOOELE ARMY DEPOT
AND VICINITY

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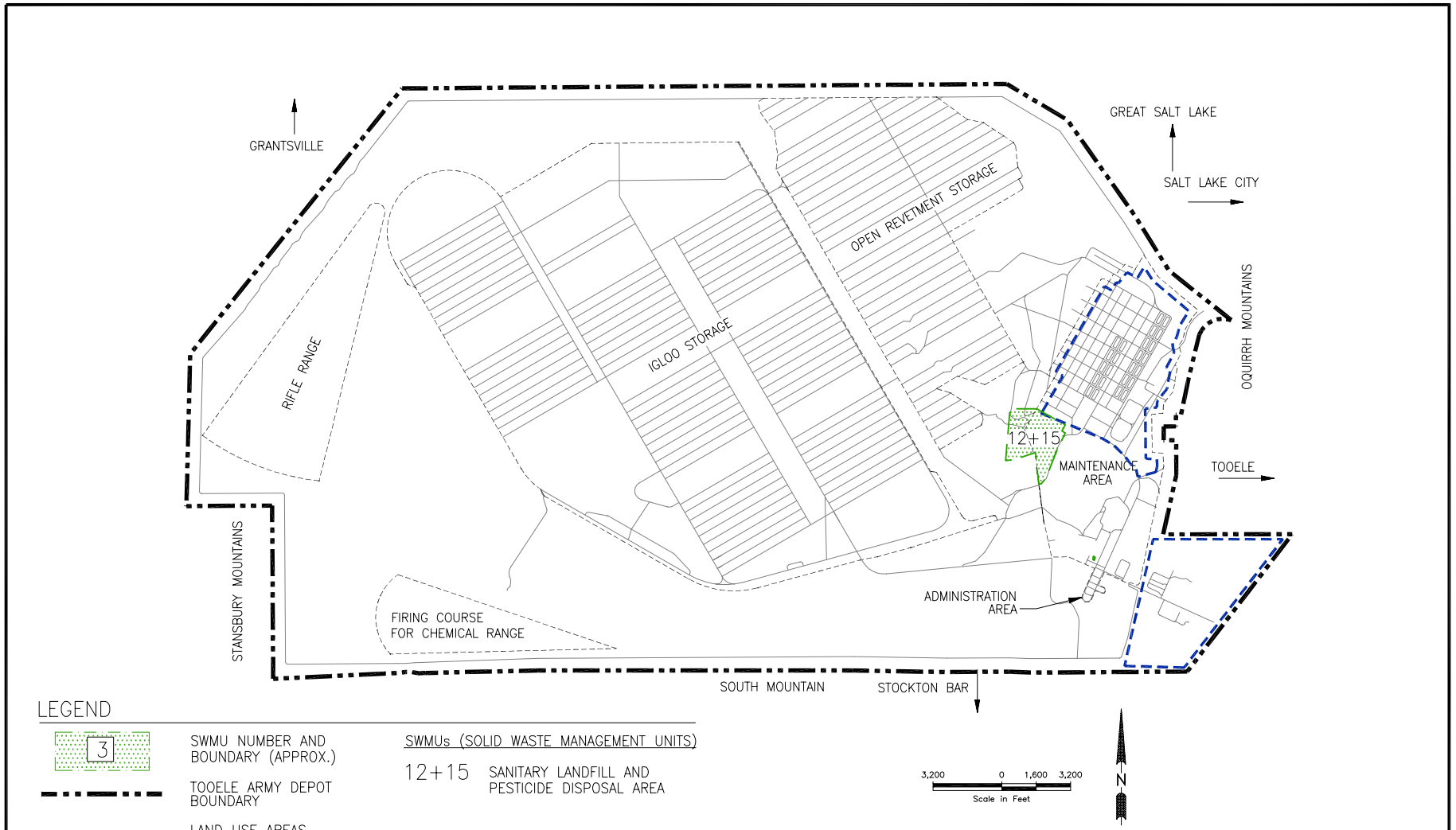

FIGURE 2
LOCATION OF SWMU 12/15
TOOELE ARMY DEPOT

of pesticides were emptied prior to their disposal. This activity is reported to have ceased in 1982 or 1983.

In 1993, TEAD was instructed by Utah Department of Environmental Quality (UDEQ) to complete site closure as part of the RCRA Post Closure activities. In addition, at the time of landfill closure, a determination was made that the requirements in Utah Administrative Code (UAC) R315-302-3 and its parts would apply. TEAD and UDEQ agreed that these regulations would direct the selection of corrective measures at the site.

UAC R315-302-3(2) and R315-302-3(5) outline the requirements for closure of landfills. The south area of the landfill was covered with soil and met the requirements for closure in 1993 which was approved in a letter dated 9/23/93 from Dennis Downs, UDEQ. The north area landfill was covered with 6-inches of soil per the daily cover requirements; however, this did not complete formal closure. The entire landfill is addressed by the corrective action discussed in this decision document. It must meet the requirements for closure under the Post Closure Monitoring and Corrective action permit (January 7, 1991), reissued February 12, 2001 including an 18-inch compacted soil cover as stated in UAC R315-302-3.

The site was the subject of a RCRA Facility Investigation (Rust, 1996. Known Releases SWMUs RFI). Metals were detected in surface and subsurface soil at levels exceeding background concentrations. Volatile organic compounds, semivolatile organic compounds, pesticides, and PCB 1260 were also identified in surface and subsurface soil. This Decision Document only addresses soil contamination. Any groundwater contamination beneath the Sanitary Landfill will be addressed as part of the SWMU 58 (TEAD-101) and SWMU 2 (TEAD-13) corrective measures. Therefore, the corrective measures alternatives presented for groundwater in this Decision Document are limited to use restrictions.

The corrective action alternative, which is to improve the existing soil and vegetative cover, and restrict land uses at SWMU 12/15, was selected by TEAD with support from UDEQ and the Environmental Protection Agency (EPA).

2. Site Risk

The human health RA considered the hypothetical residential exposure scenario for SWMU 12/15 even though the Army plans to use this site for continued military purposes.

Under the current and reasonably anticipated future military land use scenario, no excess cancer risks above one in 10,000 or HI above 1.0 were identified at SWMU 12/15. Under the construction worker scenario, no excess cancer risks above one in 10,000 were identified. However, an HI above 1.0 was identified at SWMU 12/15.

Under the hypothetical future residential land use scenario, cancer risks greater than one in 1 million and a HI greater than 1.0 were identified at SWMU 12/15.

The sitewide ecological assessment determined that compounds detected in soil at SWMU 12/15 potentially present an unacceptable ecological condition, but these compounds are not pervasive. No corrective measures are required on the basis of the ecological assessment.

Because exposed surface debris is present in some areas of the landfill, a soil cover would protect workers. In addition, landfill closure must comply with UAC R315-302-3 which requires an 18-inch soil cover. The selected corrective action will reduce future exposure to soil contamination.

3. Summary of Corrective Action Alternatives

The three alternatives listed here are described in detail in the *Corrective Measures Study (CMS) Work Plan and Report for SWMUs 12/15* (URS, February 2000 and March 2003). The CMS Report presents a detailed comparative analysis of alternatives. However, only the recommended alternative is described in detail below.

- Alternative 1 – Multilayer landfill cap and land use restrictions
- Alternative 2 – Evapotranspiration landfill cover and land use restrictions
- Alternative 3 – Improve existing soil and vegetative cover and land use restrictions

Each alternative eliminates the risk of exposure to contaminants in soil and meets the landfill closure requirements for the State of Utah as long as inspection and maintenance activities are properly completed.

Alternative 1 is not preferred because it involves a large degree of excavation and earthmoving and the likely disturbance of buried debris. Unexploded ordnance (UXO) screening will likely be required for excavation within the landfill. The presence of buried debris within excavated areas will significantly increase the cost of excavation and require additional safety protocols. The presence of buried metal debris will significantly increase the time and cost to perform UXO screening. The inability to excavate these areas would result in significantly more soil fill required to provide the required landfill cover surface grade. The estimated cost for this alternative is $27,710,000.

Alternative 2 is not preferred because it also involves a large amount of excavation and earthmoving; therefore, the potential for disturbing buried UXO is present. In addition, re-establishing vegetation will be difficult. The estimated cost for this alternative is $20,090,000.

Alternative 3 is the selected alternative because it requires significantly less excavation and earthmoving activities than Alternatives 1 and 2. This alternative will improve the existing site conditions to provide a stable soil cover over all areas of buried debris. Improvements will include collecting and covering exposed surface debris, soil regrading

for areas of significant potential for water ponding and infiltration, and providing additional vegetative cover where needed. The cover will be inspected and maintained as necessary.

Land use restrictions will prevent groundwater use and future residential use and will be incorporated into TEAD's master land use plan. These restrictions will also prohibit construction activities (other than cover maintenance) without a construction health and safety assessment subject to UDEQ review and approval. Because U.S. Army regulations direct that all revisions to the master land use plan be evaluated with regard to potential effects on human health and the environment, unauthorized future use (i.e., residential) of SWMU 12/15 requires the resolution of conflicts between identified risks and proposed changes in land use. This alternative is protective of human health and the environment.

The combination of a soil cover and land use restrictions provides a long-term and permanent reduction in the risks associated with SWMU 12/15. Some degree of long-term liability is associated with the contaminated soil covered but still onsite. There is residual risk remaining onsite resulting from soil contamination below the capped landfill. The estimated cost for this alternative is $1,950,000.

Comparative Analysis of Alternatives
Sanitary Landfill/Pesticide Disposal Area (SWMU 12/15)

Evaluation Criterion (a)		Alt. 1: Multi-layer landfill cap, and land use restrictions	Alt. 2: Evapotranspiration landfill cover, and land use restrictions	Alt. 3: Improve existing soil and vegetative cover, and land use restrictions
Technical	Performance	High	High	High
	Reliability	Moderate	Moderate	Moderate
	Implementability	Moderate	Moderate	High
	Safety	Moderate	Moderate	High
Human health assessment		High	High	High
Environmental assessment		High	High	Moderate
Administrative feasibility		High	High	High
Cost		$27,710,000	$20,090,000	$1,950,000
Relevant section in Corrective Measures Study		3.2.1	3.2.2	3.2.3

(a) Rankings indicate the effectiveness of each alternative in meeting the evaluation criteria, relative to other alternatives.

4. Public/Community Involvement

Department of Defense and Army Policies require the involvement of the local community as early as possible and throughout the entire Installation Restoration process. To accomplish this, TEAD conducts quarterly Restoration Advisory Board (RAB) meetings to exchange information with interested public for on-going projects. Members of the public attended the January 8, 2003 RAB meeting, at which the Army presented the SWMU 12/15 results of the RCRA Facility Investigation, the CMS, and the recommended alternative. Representatives of the EPA and State of Utah were present at the RAB meeting to answer questions and accept both oral and written comments. There were no comments or questions received at the meeting or during an advertised 30-day public comment period.

5. Declaration

The selected corrective measures for the Sanitary Landfill/Pesticide Disposal Area are protective of human health and the environment, attain Federal and State requirements, and are cost effective. The selected corrective measures will result in hazardous substances remaining on-site above levels that allow for unlimited use and unrestricted exposure. Land use restrictions will ensure continued adequate protection of human health and the environment.

6. Approval and Signature

The selected alternative is to improve the existing soil and vegetative cover and apply land use restrictions to prevent residential use and use of groundwater. The estimated cost of this corrective action is approximately $1,950,000. The appropriate approval authority for this action is the Tooele Army Depot.

LARRY McFARLAND Restoration Program Manager Tooele Army Depot, Utah	Date
KATHY ANDERSON Public Affairs/Protocol Office Tooele Army Depot, Utah	Date
FRANK BRUNSON Legal Office Tooele Army Depot, Utah	Date
KAROL L. RIPLEY LTC, OD Commanding Tooele Army Depot, Utah	Date